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Search Results -

Term	Documents
(12 AND 9).USPT.	0

Database: US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Refine Search: `l12 and l9` Clear

Search History

Today's Date: 10/18/2001

DB Name	Query	Hit Count	Set Name
USPT	l12 and l9	0	L14
USPT	l12 and l10	0	L13
USPT	l1 and l11	1	L12
USPT	unit conduct$5	2074	L11
USPT	80-$5 ps or $80-$5ps	4968	L10
USPT	$5-120 ps or $5-120ps	34	L9
USPT	$-120 ps or $-120ps	18	L8
USPT	80-120 ps or 80-120ps	0	L7
USPT	80 ps or 80ps	1496	L6
USPT	120 ps or 120ps	725	L5
USPT	l1 and l2	0	L4
USPT	unit conduct?	228	L3
USPT	l1 with unit conduct?	0	L2
USPT	potassium channel	997	L1

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Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: US 5234947 A

L17: Entry 1 of 1 File: USPT Aug 10, 1993

US-PAT-NO: 5234947
DOCUMENT-IDENTIFIER: US 5234947 A
TITLE: Potassium channel activating compounds and methods of use thereof

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

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Term	Documents
(8 AND 1).USPT.	1

Display 20 Documents, starting with Document: 1

Display Format: TI Change Format

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L17: Entry 1 of 1 File: USPT Aug 10, 1993

DOCUMENT-IDENTIFIER: US 5234947 A
TITLE: Potassium channel activating compounds and methods of use thereof

ABPL:
A method for activating potassium channels and for treating hypertension, addiction, asthma, incontinence, and other conditions treatable by potassium channel activators, such as spasms and convulsions, comprising administering a compound having the formula: ##STR1## wherein R is a saturated or unsaturated group having from 1 to 4 carbon atoms which is optionally substituted by lower alkyl, lower alkenyl or lower alkoxy groups; and

BSPR:
The present invention relates to compounds and compositions which have been found useful in potassium channel activation, treatment of hypertension, alleviation of the symptoms of addition withdrawal, and all other conditions treatable by a potassium channel opener, and to methods of use of these compounds.

BSPR:
Voltage-gated potassium channels make up a large molecular family of integral membrane proteins that are fundamentally involved in the generation of bioelectric signals such as nerve impulses. These proteins span the cell membrane, forming potassium-selective pores that are rapidly switched open or closed by changes in membrane voltage. Several chemical entities have been discovered to be potent and specific openers of vascular potassium channels. These include cromakalim and its derivatives and RP 52891. This mechanism is also shared, at least partially, by drugs such as minoxidil, diazoxide, pinacidil and nicorandil. The opening of plasmalemmal K.sup.+ channels produces loss of cytosolic K.sup.+. This effect results in cellular hyperpolarization and functional vasorelaxation. In normotensive or hypertensive rats, K.sup.+ channel activators decrease aortic blood pressure (by producing a directly mediated fall in systemic vascular resistance) and reflexly increase heart rate. K.sup.+ channel openers produce selective coronary vasodilatation and afford functional and biochemical protection to the ischemic myocardium.

BSPR:
It is an object of the present invention to provide compounds having the property of potassium channel activation.

BSPR:
It is yet another object of the present invention to provide a method for treating any condition which may be alleviated by potassium channel activation.

BSPR:
It is yet a further object of the present invention to provide a method for activating potassium channels in vivo.

BSPR:
It has been discovered that compounds of the following formula have the property of potassium channel activation: ##STR3## wherein R is a saturated or unsaturated moiety of one to four carbon atoms, so as to create a four- to seven-membered ring structure, which ring structure may be saturated or unsaturated, and the carbon atoms of which may be substituted by lower alkyl, lower alkenyl groups or lower alkoxy groups, and R' may be hydrogen, lower (e.g., C.sub.1 -C.sub.8) alkyl, lower alkenyl or aralkyl in which the alkyl portion is preferably lower alkyl.

BSPR:

The compounds of the present invention may be used to treat withdrawal symptoms from any addictive substance, such as cigarettes, alcohol or narcotic drugs. As this utility has been discovered to be an effect of the potassium channel activation properties of these compounds, any compounds known to be a potassium channel activator can be used for the treatment of withdrawal symptoms from addictive substances. Non-limiting example of compounds having the property of potassium channel activation are RP 52891, cromakalim, lemakalim, celikalim, RO-316930, 507-PC0-400, HOE-234, minoxidil, diazoxide, pinacidil, and nicorandil.

BSPR:
The compounds of the present invention may also be used for the treatment of any condition which is treatable by potassium channel activators, such as hypertension, incontinence, asthma, etc.

DEPR:
Isolated avena pyrone was studied for its action against ionic channels in cell membranes using the lipid bilayer technique. Membranes from rat brain were fused with a lipid bilayer formed across the opening of a patch-clamp pipette. Electrical activity was monitored using an Axon Instruments Axopatch amplifier using 100 mM symmetrical KCl solutions. In the presence of elevated levels of calcium, at least three types of potassium channel can be determined: a small 25-50 pS channel, a 90-120 pS channel, and a large 200-220 pS channel. In the absence of calcium in the bathing solutions, openings of the large 200 pS channel are rarely seen. When avena pyrone is added to the bathing solution, an activation of the large K.sup.+ channel is seen, evidenced by an increased open probability and very long open times.

DEPR:
The interference with the effects of withdrawal symptoms from addictive substances of the subject compounds is also consistent with potassium channel activation. For example, with respect to cigarette smoking, the effect of avena pyrone is to reduce the craving for a cigarette. As one gets a craving for a cigarette, there is a perception of muscular tension. The effects of potassium channel activators are to lower the blood pressure, relax the muscles and make breathing easier, all of which counteracts the feeling of craving one experiences upon withdrawal from an addictive substance.

DEPR:
The antispasmodic effect of aryl-substituted .alpha.-pyrones from the kava-root have previously been reported, although it was not known that these effects were due to the property of potassium channel activation. It has now been confirmed that kawain is indeed a potassium channel activating substance. All of the kava pyrones have a bulky aromatic group. It has unexpectedly been found that the substitution of a lower alkyl group for the more bulky aromatic group enhances the potassium channel activation effects of the compounds.

DEPR:
While the kava pyrones were known to have anti-convulsant and anti-spasmodic properties, it was not known that they had potassium channel activation effects, and therefore it would not have been obvious from their known anti-convulsive and anti-spasmodic effect that they could also be used for the treatment of hypertension or the treatment of addiction withdrawal symptoms, or any of the other effects of potassium channel activation which do not involve the anti-convulsant or anti-spasmodic effects of the compounds.

CLPR:
5. A method for alleviating the symptoms of tobacco addiction withdrawal or nicotine addiction withdrawal in a subject, comprising administering to the subject an effective amount of a compound having the properties of potassium channel activation.

ORPL:
Duty et al., "Potassium Channel Openers, Pharmacological Effects and Future Uses", Drugs, 40: pp. 785-791, 1990.

ORPL:
Edwards et al., "Potassium Channel Openers and Vascular Smooth Muscle Relaxation", Pharmac. Ther., vol. 48, pp. 237-258, 1990.

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End of Result Set

Generate Collection

L17: Entry 1 of 1 File: USPT Aug 10, 1993

US-PAT-NO: 5234947
DOCUMENT-IDENTIFIER: US 5234947 A

TITLE: Potassium channel activating compounds and methods of use thereof

DATE-ISSUED: August 10, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cherksey; Bruce	Hoboken	NJ		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
New York University	New York	NY			02

APPL-NO: 7/ 790387
DATE FILED: November 7, 1991

INT-CL: [5] A61K 31/335
US-CL-ISSUED: 514/449; 514/450, 514/460, 514/473, 514/474, 514/812, 514/813
US-CL-CURRENT: 514/449; 514/450, 514/460, 514/473, 514/474, 514/812, 514/813
FIELD-OF-SEARCH: 514/449, 514/450, 514/460, 514/473, 514/474, 514/449, 514/450, 514/460, 514/473, 514/474, 514/812, 514/813

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4039571	August 1977	Dawson et al.	260/468

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
63-275514	June 1988	JPX	
8902739	April 1989	WOX	
8902740	April 1989	WOX	
8912104	December 1989	WOX	

OTHER PUBLICATIONS

Kretzschmar et al., Arch Int. Pharmacodyn 180(2): 475-491 (1969).
Duty et al., "Potassium Channel Openers, Pharmacological Effects and Future Uses", Drugs, 40: pp. 785-791, 1990.
Edwards et al., "Structure-activity relationships of K.sup.+ channel openers", TiPS, vol. 11, pp. 417-422, Oct. 1990.
Edwards et al., "Potassium Channel Openers and Vascular Smooth Muscle Relaxation", Pharmac. Ther., vol. 48, pp. 237-258, 1990.
Haeusler, Guenther, "K.sup.+ -Channel Openers: New Antihypertensive Drugs?" Clin.

Physiol. Biochem., 8: (suppl. 2) pp. 45-56, 1990.
Saeed et al., "Inhibitor(s) of prostaglandin biosynthesis in extracts of oat (Avena sativa) seeds", Biochemical Society Transaction, 9(5): p. 444, 1981.
Tschesche et al., "Uber Triterpene-XXIX Zur Struktur Des Avenacins", Tetrahedron, vol. 29, pp. 629-663, 1973.
Output generated from Compact Cambridge: MEDLINE 1988 Revised for 1990, search Strategy: AVENCAB: Document 3 of 5.
C. L. Anand, "Effect of Avena sativa on Cigarette Smoking", Nature, vol. 233, p. 496, Oct. 15, 1971.
Mrs. M. Grieve, "The Medicinal, Culinary, Cosmetic and Economic Properties, Cultivation and Folk-Lore of Herbs, Grasses, Fungi Shrubs & Trees, with all their Moders Scientific Uses", J. Pharm. Pharmac., 27: 92-98, 1975.

ART-UNIT: 125
PRIMARY-EXAMINER: Friedman; S. J.
ASSISTANT-EXAMINER: Jarvis; William
ATTY-AGENT-FIRM: Pennie & Edmonds

ABSTRACT:

A method for activating potassium channels and for treating hypertension, addiction, asthma, incontinence, and other conditions treatable by potassium channel activators, such as spasms and convulsions, comprising administering a compound having the formula: ##STR1## wherein R is a saturated or unsaturated group having from 1 to 4 carbon atoms which is optionally substituted by lower alkyl, lower alkenyl or lower alkoxy groups; and

wherein R' is hydrogen, lower alkyl, lower alkenyl, or aralkyl.

5 Claims, 2 Drawing figures

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- JPO Abstracts Database
- EPO Abstracts Database
- Derwent World Patents Index
- IBM Technical Disclosure Bulletins

Refine Search: `11 and 18` Clear

Search History

Today's Date: 10/18/2001

DB Name	Query	Hit Count	Set Name
USPT	l1 and l8	1	L17
USPT	l1 and l9	2	L16
USPT	l1 and l10	0	L15
USPT	l12 and l9	0	L14
USPT	l12 and l10	0	L13
USPT	l1 and l11	1	L12
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USPT	80 ps or 80ps	1496	L6
USPT	120 ps or 120ps	725	L5
USPT	l1 and l2	0	L4
USPT	unit conduct?	228	L3
USPT	l1 with unit conduct?	0	L2
USPT	potassium channel	997	L1

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Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. Document ID: US 5744324 A

L12: Entry 1 of 1 File: USPT Apr 28, 1998

US-PAT-NO: 5744324
DOCUMENT-IDENTIFIER: US 5744324 A
TITLE: Nucleic acids encoding potassium channels which form inward rectifier, G-protein activated, mammalian, heteromultimeric, potassium channels and uses thereof

Full Title CLS.1

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Term	Documents
(11 AND 1).USPT.	1

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Display Format: TI Change Format

FILE 'MEDLINE'
FILE 'JAPIO'
FILE 'BIOSIS'
FILE 'SCISEARCH'
FILE 'WPIDS'
FILE 'CAPLUS'
FILE 'EMBASE'
=> S POTASSIUM CHANNEL#
6 FILES SEARCHED...
L1 84953 POTASSIUM CHANNEL#

=> s unit conductance
6 FILES SEARCHED...
L2 685 UNIT CONDUCTANCE

=> s l1 and l2
L3 153 L1 AND L2

=> s l3 and (120ps or 120 ps or 80ps or 80 ps)
L4 8 L3 AND (120PS OR 120 PS OR 80PS OR 80 PS)

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5 4 DUP REM L4 (4 DUPLICATES REMOVED)

=> d l5 ibib abs 1-4

L5 ANSWER 1 OF 4 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1999-326593 [27] WPIDS
DOC. NO. NON-CPI: N1999-244972
DOC. NO. CPI: C1999-096574
TITLE: Voltage-gated, pH-sensitive ***potassium*** ***channel*** useful in gene therapy.
DERWENT CLASS: B04 D16 S03 T01
INVENTOR(S): SALKOFF, L; SCHREIBER, M; SILVIA, C
PATENT ASSIGNEE(S): (UNIW) UNIV WASHINGTON
COUNTRY COUNT: 84
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9920754	A1	19990429	(199927)*	EN	92

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9911122 A 19990510 (199938)
EP 1029042 A1 20000823 (200041) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9920754	A1	WO 1998-US22321	19981021
AU 9911122	A	AU 1999-11122	19981021
EP 1029042	A1	EP 1998-953857	19981021
		WO 1998-US22321	19981021

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9911122	A Based on	WO 9920754
EP 1029042	A1 Based on	WO 9920754

PRIORITY APPLN. INFO: US 1998-76172 19980227; US 1997-63138 19971022
AN 1999-326593 [27] WPIDS
AB WO 9920754 A UPAB: 19990714
NOVELTY - A voltage-gated, pH sensitive ***potassium*** ***channel*** Slo3, expressed in spermatocytes, is new.
DETAILED DESCRIPTION - Slo3 has, as a monomer, calculated molecular weight 120-156 kD; has ***unit*** ***conductance*** (as a functional tetramer, when expressed in Xenopus oocytes) of 80-***120*** ***pS*** ; has increased activity at intracellular pH above about 7.1 and binds specifically to polyclonal antibodies against sequences (P1), (P2), (P3) or (P4), all given in the specification, with 1113 and about 110, 1050 and 1020 amino acids, respectively.
INDEPENDENT CLAIMS are also included for the following:
(1) isolated nucleic acid (I) encoding Slo3;
(2) isolated nucleic acids (Ia) encoding at least 15 contiguous amino acids from Slo3, and their conservatively modified variants;
(3) antibodies (Ab) that bind selectively to murine or human Slo3;
(4) expression vector containing (I);
(5) host cell transfected with this vector;
(6) method for identifying agents (A) that increase or decrease ion-flux through a pH-sensitive ***potassium*** ***channel*** ;
(7) detecting Slo3 in mammalian tissue by reaction with a selective binding agent;
(8) computer method of screening for mutations in Slo3 genes; and
(9) computer method for identifying a three-dimensional Slo3 structure.
ACTIVITY - Contraceptive; fertility-regulating.
MECHANISM OF ACTION - Slo3 is involved in sperm capacitation and/or the acrosome reaction, essential steps in fertilization.
USE - Slo3, and (I), encoding it, are used to identify specific inhibitors and activators (potentially useful for treating infertility and as contraceptives), also for studying sperm physiology in vitro. Slo3-specific antibodies are used for diagnostic detection of Slo3 expression. Slo3, as part of a chimera with another channel protein, can be used as a reporter for measuring changes in potassium concentration, current flow, ion flux, etc.
Fragments of (I) are useful as probes for identifying homologs, variants and mutants associated with disease; to detect Slo3-related mRNA or protein; for chromosomal localization; in gene therapy; for identifying potential modulators; to measure up-regulation of Slo3 in drug screening assays and for production of recombinant Slo3 protein.
Dwg.0/4

L5 ANSWER 2 OF 4 MEDLINE
ACCESSION NUMBER: 95222577 MEDLINE
DOCUMENT NUMBER: 95222577 PubMed ID: 7535856
TITLE: Ion channels in the plasma membrane of protoplasts from the halophytic angiosperm Zostera muelleri.
AUTHOR: Garrill A; Tyerman S D; Findlay G P
CORPORATE SOURCE: School of Biological Sciences, Flinders University, Adelaide, South Australia.
SOURCE: JOURNAL OF MEMBRANE BIOLOGY, (1994 Dec) 142 (3) 381-93.
Journal code: J4E; 0211301. ISSN: 0022-2631.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199505
ENTRY DATE: Entered STN: 19950518
Last Updated on STN: 19960129
Entered Medline: 19950511
AB Patch clamp studies show that there may be as many as seven different channel types in the plasma membrane of protoplasts derived from young leaves of the halphytic angiosperm Zostera muelleri. In wholecell preparations, both outward and inward rectifying currents that activate in a time- and voltage-dependent manner are observed as the membrane is either depolarized or hyperpolarized. Current voltage plots of the tail currents indicate that both currents are carried by K+. The channels responsible for the outward currents have a ***unit*** ***conductance*** of approximately 70 pS and are five times more permeable to K+ than to Na+. In outside-out patches we have identified a stretch-activated channel with a conductance of 100 pS and a channel that inwardly rectifies with a conductance of 6 pS. The reversal potentials of these channels indicate a significant permeability to K+. In addition, the plasma membrane contains a much larger K+ channel with a conductance of 300 pS. Single channel recordings also indicate the existence of two Cl- channels, with conductances of 20 and ***80*** ***pS*** with distinct substates. The membrane potential difference of perfused protoplasts showed rapid action potentials of up to 50 mV from the resting level. The frequency of these action potentials increased as the external osmolarity was decreased. The action potentials disappeared with the addition of Gd3+, an effect that is reversible upon washout.

L5 ANSWER 3 OF 4 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 94093282 MEDLINE
DOCUMENT NUMBER: 94093282 PubMed ID: 7505662
TITLE: Slowly-activating cation channels in the vacuolar membrane of plants.
AUTHOR: Weiser T
CORPORATE SOURCE: Boehringer Ingelheim KG, ZNS-Pharmakologie, Ingelheim, FRG.
SOURCE: EXS, (1993) 66 305-10. Ref: 21
Journal code: BFZ; 9204529.
PUB. COUNTRY: Switzerland
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199402
ENTRY DATE: Entered STN: 19940215
Last Updated on STN: 19960129
Entered Medline: 19940201
AB Among other ion channels and transport proteins, the membrane of plant vacuoles contains a voltage- and calcium-dependent cation channel with activation kinetics in the range of seconds. This SV(= slow vacuolar)-channel has a ***unit*** ***conductance*** of 60 to ***80*** ***pS*** (in symmetrical 100 mM cation solution) and is strictly inward rectifying. Investigations on the pharmacology of this protein revealed reasonable similarities to calcium-dependent ***potassium*** ***channels*** of large conductance.

L5 ANSWER 4 OF 4 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 87272529 MEDLINE
DOCUMENT NUMBER: 87272529 PubMed ID: 2440521
TITLE: ***Potassium*** ***channels*** in mouse neonate dorsal root ganglion cells: a patch-clamp study.
AUTHOR: Simonneau M; Distasi C; Tauc L; Barbin G
SOURCE: BRAIN RESEARCH, (1987 Jun 2) 412 (2) 224-32
Journal code: B5L; 0045503. ISSN: 0006-8993.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198708
ENTRY DATE: Entered STN: 19900305
Last Updated on STN: 19900305
Entered Medline: 19870828
AB Isolated neurons from mouse neonate dorsal root ganglia were analyzed using both whole-cell clamp and single-channel recording techniques and presented a complex repertoire of potassium (K) channels. Different types of ***potassium*** ***channels*** have been found: calcium-activated K channel presenting a large ***unit*** ***conductance*** of 260 pS in symmetrical K; voltage-dependent K channels of 130 pS without calcium-dependence; two types of inward rectifying K channels (90 and ***120*** ***pS*** in symmetrical K); low probability K channels; delayed rectifier channels and non-selective cationic channels.